AFFIDAVIT OF J. THOMAS SCHROPPE IN SUPPORT OF FOSTER WHEELER'S NOTICE OF REMOVAL

Document 1-3

- I, J. Thomas Schroppe, being under penalty of perjury, declare and say:
- 1. I am a 1962 graduate of the New York State Maritime College with a degree in Marine Engineering. For three months in 1962, I worked as a Third Assistant Engineer for American Export Lines. I began my career at Foster Wheeler in 1962 as a Proposal Engineer in the Marine Department. As a Proposal Engineer, I was responsible for taking shipyard specifications and designing a boiler to meet the thermal performance and physical requirements of those specifications. In 1967, I became the Manager of the Proposal Department and reviewed all proposals. In 1969, I was promoted to Vice President of Engineering at which point I supervised both proposal and contract execution activities. From 1975 to 1982, I was President of Foster Wheeler Boiler Corporation. In 1982, I became Managing Director of Foster Wheeler U.K. From 1984 to my retirement in 1999, I was Executive Vice President of Foster Wheeler Power Systems.
- 2. I am personally familiar with the degree of supervision and control exercised by the Navy and its agencies in procurement contracts with Foster Wheeler for boilers and auxiliary equipment because I was personally involved in such contracts at all the various stages of development, from inquiry and bid through production, testing, and sea trials and, ultimately, acceptance.
- 3. I submit this affidavit to attest to the degree of involvement, supervision, direction and control exercised by the U.S. Navy and its authorized agents and officers in connection with procurement contracts with Foster Wheeler for equipment to be installed aboard U.S. Naval vessels. The following paragraphs describe the contract process from the perspective of Foster Wheeler as the vendor, as well as the levels of interaction between Foster Wheeler and the Navy agents and personnel through the various stages of a given contract.
- 4. Foster Wheeler furnished and fabricated marine propulsion boilers and related auxiliary systems for U.S. Navy, Maritime Commission, and Coast Guard ships under contract between Foster Wheeler and the shipyards and/or the United States Navy Department and its authorized agencies, officers and personnel (hereafter collectively referred to as the "Navy").
- 5. The Navy was responsible for all phases of the design of a vessel, which was accomplished by the Naval architect. Specifically, the Naval architect would prepare the ship design which involved the entire vessel, including the machinery space, and all performance requirements. In general, the ship design for any given class of ship would be contained in a Ship Specification ("Ship Spec") which covers all aspects of the vessel including the machinery space. As it relates to the boiler, the Ship Spec would cover all boiler operating criteria, performance requirements, and maximum physical dimension of the boiler(s). In general, the Ship Spec was written and prepared by the naval architect and approved by the Navy and, in the course of its projects with the Navy, Foster Wheeler was required to design, fabricate and furnish equipment which complied strictly with the requirements in the Ship Spec.
- 6. In addition to the Ship Spec, Foster Wheeler was also obligated to comply with Military Specifications ("Mil Specs") which cover all specific components of the boiler, including

accessories, subcomponents, and materials required to fabricate the boilers and its components.

The normal process by which Foster Wheeler sold marine boilers and economizers to the Navy first involved receipt and response to an inquiry from either BuShips (Bureau of Ships) or the shipyard, depending on the Navy's procurement process. The boiler inquiry would be assigned to a proposal engineer at Foster Wheeler's marine department who would review the inquiry, which consisted of the Ship Spec and the associated drawings, for the performance requirements and size limitations of the boiler.

Document 1-3

- The performance requirements are contained in the specifications, namely MIL-B18381 and the Ship Spec, which must be followed. I must point out that deviations from these specs were not acceptable as the boiler is just one piece of the entire power plant which was designed by BuShips or by a designated naval architecture firm such as Gibbs and Cox. In addition, the Foster Wheeler proposal engineer was aware that these requirements would be tested during the sea trials, so all calculations had to precisely conform with the Ship Spec.
- During the proposal phase, Foster Wheeler would prepare design drawings and related materials in conformance with the Ship Spec (which included performance specs and size limitations) and other requirements contained in MIL-B-18381 which was the Mil Spec pertaining to Naval propulsion boilers. I am personally familiar with the MIL-B-18381 as I saw it and referred to it throughout my career at Foster Wheeler. Foster Wheeler would prepare a proposal drawing and proposal specification that would outline the design and scope of material and equipment contained in the proposal. The boiler proposal submitted by Foster Wheeler would incorporate the specific requirements set forth in the Ship Spec and MIL-B18381.
- Approximately half way through the proposal process, information is forwarded to Foster 10. Wheeler's estimating department to start to prepare an estimate of the boiler cost. In parallel, the proposal engineer starts calling vendors to obtain quotes for the various boiler accessories such as burners, sootblowers, gage glasses, safety valves, etc. All Navy approved vendors were asked to provide a quotation for the material in accordance with the Mil Spec covering their equipment or product.
- The finished boiler proposal consisted of an approximately 25 page booklet, a proposal drawing and an offering letter to the entity requesting a proposal so stating that the offering was in accordance with the Ship Spec and all required Mil Specs.
- The boiler proposal would be reviewed by the shipyard with the understanding that the proposed design, prepared specifically for the Navy in accordance with the Ship Spec. at issue, conformed to all appropriate specifications stated above. Once final price negotiations were complete, the contract was awarded to Foster Wheeler.
- The boiler specifications would provide detailed requirements for the boiler and economizer and would always reference the boiler Mil Spec (MIL-B-18381) which dictated very specific material requirements such as:

- (a) Boiler, superheater and economizer tubes: Type of tube, tube diameter, tube thickness, material, and tensile strength.
- (b) Refractory and Insulation: Specification identified the material, arrangement of various bricks and insulating materials on various boiler walls and provided specific Mil Specs for each type of insulating/refractory material.
- (c) Boiler accessories: All accessories applied to the boiler, such as burners, safety valves, soot blowers, must conform to a specific Navy Mil Spec for each such component.
- 14. At receipt of an order the same Foster Wheeler proposal engineer is assigned the project as a contract engineer which will entail a more detailed recalculation of the thermal performance for the boiler. In addition, calculations of all the pressure drops, design of drum de-superheaters and final selection of all boiler accessories are made. All this work will be double checked by the head of engineering. In parallel, the contract engineer will commence discussions with the contract design department who will make all the drawings required for both manufacture, for submission to the shipyard and the Navy for review and approval. Foster Wheeler would not commence production of the boilers until the Navy issued final approval of these contract drawings. The approved drawings prepared during this phase would eventually be incorporated into the technical manuals.
- 15. The contract design department also provides the material requisitions to the purchasing department so they may procure materials in accordance with Mil Specs. With regard to procurement of insulating and refractory material, the specific requirements for insulation and refractory items are listed in MIL-B-18381, which then references additional Mil Specs for each specific type of refractory/insulating material required. Foster Wheeler's procurement process would involve the purchasing department contacting the vendor and requesting a quotation for the material. The Foster Wheeler purchase order would reference the appropriate Mil Spec for each item shipped. The vendor, in turn, would supply materials that conformed to the Mil Spec and ship it directly to the shipyard. Finished products such as burners, sootblowers, and all refractory and insulating materials, etc. are shipped direct to the shipyard so they may be incorporated into the final boiler erection. Upon arrival at the shipyard, there would be a receipt inspection to ensure what was on bill of materials was delivered.
- 16. During manufacture of the boiler, a Navy resident inspector was present at Foster Wheeler's shops. The Navy inspector would review all fabrication processes, welding procedures, pressure part welding, and all weld x-rays for conformity to Mil Specs. The inspector would also ensure that all materials used at this stage, e.g., steel, flanges, tubes, etc., conformed to applicable Mil Specs. All manufacturing was performed to drawings which had been reviewed and approved by the Navy.

17. Once individual components (e.g., headers, tubes, pressure parts) were manufactured, inspected by a Foster Wheeler quality control inspector, and inspected and stamped with approval by the resident Navy inspector, the materials/components were moved to the shipping area. At this point, the boiler fabrication was complete, though the boilers were in a "knocked down" condition (unassembled) for shipment. The economizers were always shop assembled since they could be shipped by rail. The boiler components and related materials were wrapped and/or boxed in accordance with Mil Specs relating to packaging and shipment of materials, which is also referred to in Mil Spec MIL-B-18381.

Document 1-3

- The knocked down boilers are then shipped from Foster Wheeler's facility to the shipyard for assembly. For those not familiar with Naval propulsion boilers, they are simply too large and heavy to be shipped assembled. The assembly is done by shippard workers with a Foster Wheeler employee on site to interpret drawings and answer questions that may arise during the assembly process. Resident Navy inspectors also witness the boiler assembly process.
- A critically important inspection item is the hydrostatic test put on the boiler after complete assembly of the pressure parts. This test is a water pressure test of the boiler at 50% over the boiler design pressure. At this point, leaks, even small ones, are not acceptable to the Navy. Formal written acceptance at this stage by the Navy inspector is a requirement. The boilers now sit idle in the ship as the remainder of the engine room and the balance of the ship are being completed. It is at this point that all the engine room piping is connected to the various connections on the boiler. Following the piping tests (shipyard responsibility) the shipyard insulates all piping up to the boiler casings.
- 20. Upon completion of the vessel by the shipbuilder, dock trials start to test the various machinery systems in the engine room. The boilers are run at low power since the main turbine cannot be run very fast at the dock because any higher powers would tear the ship loose from the pier. Full power testing is done during sea trials where all aspects of the boiler performance are thoroughly tested. Foster Wheeler would send a service engineer to witness these tests and answer any questions which may arise. Foster Wheeler frequently sent the contract engineer on the first ship of a new class to obtain first-hand data on the boiler performance. Sea Trials were performed on every ship and formal approval by the head Navy inspector was required. Any punch list items which were identified had to be corrected before final acceptance of the boilers.
- In addition to the above design, manufacture and testing there remains an obligation by Foster Wheeler to provide technical manuals for the boilers and economizers furnished in a given Navy contract. The Navy exercised intense direction and control over all written documentation to be delivered with its naval boilers such as engineering drawings, test reports and other technical data that could be used as needed by shipboard engineering officer during the life of the equipment. The Navy required that every piece of equipment be supplied with a defined number of copies of one or more technical manuals. Navy personnel participated intimately in the preparation of this kind of information and exercised specific direction and control over its contents. These manuals included safety information related to the operation of naval boilers and economizers only to the extent

directed by the Navy.

22. Furthermore, the Navy had precise specifications, practices and procedures that governed the content of any communication affixed to machinery supplied by Foster Wheeler to the Navy. Foster Wheeler would not be permitted, under the specifications, associated regulations and procedures, and especially under actual practice as it evolved in the field, to affix any type of warning or caution statement to a piece of equipment intended for installation onto a Navy vessel, beyond those required by the Navy.

I declare under the penalty of perjury under the laws of the United States of America that the foregoing facts are true and correct. Executed this day of March, 2007 at Newark, New Jersey.

THE STATE OF NEW JERSEY

ESSEX COUNTY

Personally appeared before me this day of March, 2007, J. Thomas Schroppe, who made oath that the statements contained in the affidavit above are true and correct to the best of his knowledge.

Subscribed and sworn to before me this 27th day of Hock 2007. My

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commission expires 4/1/2007

Notary Public

HEDWIG BACHLER A NOTARY PUBLIC OF NEW JERSEY MY COMMISSION EXPIRES APRIL 1, 2007

AFFIDAVIT OF ADMIRAL BEN J. LEHMAN, U.S. NAVY, RETIRED IN SUPPORT OF FOSTER WHEELER'S NOTICE OF REMOVAL

I, Ben J. Lehman, understanding and being under the penalty of perjury, declare:

1. I am a Rear Admiral, Retired, of the United States Navy [U.S. Navy]. I received notice of my commission as an Ensign in April, 1942 and commenced active duty in the U.S. Navy on June 1, 1942. Immediately prior to commencing active duty in the U.S. Navy, I attended the College of the City of New York. I had been a "student engineer" at the Mack Manufacturing Co. [Mack Trucks] in Allentown, PA and had been enrolled as a special student at Lehigh University, Bethlehem, PA from June 1941 until January 1942. I returned to the College of the City of New York in order to complete my course work there and then enter military service. I had already completed two years of U.S. Army ROTC. On entering active duty, the U.S. Navy ordered me to study naval architecture and marine Engineering at the Massachusetts Institute of Technology [MIT]. Later, I was ordered to the U.S. Naval Academy Post-Graduate School at Annapolis [now the U.S. Navy Post-Graduate School in Monterey, CA]. I received a Master of Science [SM] from Harvard University in 1949. I studied Design Philosophy and Advanced Stress Analysis at Stanford University in 1957 and 1958. In the U.S. Navy, I served as a Ship Superintendent and Dry Docking Officer at the New York Naval Shipyard [formerly the Brooklyn Navy Yard], between 1942 and 1944, as a Ship Superintendent at the San Francisco Naval Shipyard from September 1950 to May 1952, and as a Planning Officer at the Assistant Industrial Manager, San Francisco from 1952 to 1954. In the Navy, I have always been an Engineering Duty Officer. I was promoted to Rear Admiral in 1977 in the Naval Reserve. I was employed as an engineer by the General Electric Co. between 1946 and 1958, and by the Bethlehem Steel Co.'s Shipbuilding Division in 1949 and 1950. I held the positions of Director of Engineering at a major shipbuilding company in Seattle, WA from 1969 to 1972 and of Vice President of Engineering in

Pascagoula, MS from 1972 to 1975. During all these periods I have maintained close contact with the U.S. Navy. During times of civilian employment, I have had periods of active duty in the Department of Defense [DOD], the Naval Sea Systems Command [NAVSEA] in Washington, D.C., and shipyards. My experience has caused me to be thoroughly familiar with U.S. Navy specifications by means of which the U.S. Navy controlled its contracts and inspection procedures, and thereby controlled its suppliers. Since my retirement in 1982 my specific knowledge of new procedures has decreased. I have been an independent consultant since 1975. I have personal knowledge of the facts herein.

- 2. I submit this Affidavit in support of Foster Wheeler's Notice of Removal to attest to the levels of direction, control, and supervision exercised by the U.S. Navy over the design and manufacture of equipment, including boilers and their auxiliary equipment [collectively referred to as "boilers"] designed and constructed for installation on ships of the U.S. Navy.
- 3. During my service in the U.S. Navy as a Ship Superintendent, I was personally involved with supervision and oversight of ship's overhauls and alterations. I was fully aware that only boilers especially designed and built for the propulsion of U.S. Navy combat vessels, including Foster Wheeler boilers, could be installed. These were designed and manufactured in accordance with detailed specifications written, approved, and issued by the U.S. Navy, specifically NAVSEA or its predecessors, including the Bureau of Engineering.
- 4. The U.S. Navy chain of command concerning ship construction comprised several layers. The Secretary of the Navy [subject to the President and Congress] had the ultimate authority related to contractual and technical control. An Under Secretary was directly concerned with ship acquisitions. The Under Secretary position has now been eliminated, and that authority now rests with the Chief of Naval Operations who provides NAVSEA with the

desired ship characteristics, and oversees its performance. In the 1930s, Foster Wheeler, as a boiler and heat exchanger manufacturer, was under the cognizance of the Bureau of Engineering. The representative of that Bureau at the plant was an Inspector of Naval Machinery. The Bureau of Engineering and the Bureau of Construction and Repair were combined in 1940 to create the Bureau of Ships: for a time Approvals were required from both the Inspector of Machinery and the Supervisor of Shipbuilding for the lead ships of a class. Later, the Inspectors of Naval Machinery were renamed Inspectors of Naval Material. About 1958, the Bureau of Ordnance was merged with the Bureau of Ships to form NAVSEA. As a reduction in the pace of shipbuilding continued, routine inspection responsibilities were assumed by a new organization: the Defense Contract Administration Services Agency [DCASA]. This organization had many responsibilities, but lesser technical qualifications. Technical questions were referred to the Bureaus [Commands] in Washington. Throughout all of these reorganizations there were no changes in the ultimate authorities or the responsibilities of those authorities. Suppliers of equipment and the builders of ships have had the U.S. Navy's acceptance of their products determined by representatives of different organizations at different times but NAVSEA or its predecessors always had the ultimate authority and the professional competence to accept or reject them.

5. Under NAVSEA, as under its predecessors, the U.S. Navy's shipbuilding and acquisition of equipment for the ships comprised several levels of authority. Detailed technical control over ship design, construction, repair, and inspection was in NAVSEA. The Commander of Naval Supply Systems Command [NAVSUP] had contractual control of some procurements. Each of these two organizations had oversight responsibilities regarding, among other things, boilers manufactured for U.S. Navy vessels. Compliance with the specifications and standards was directly monitored by Inspectors of Naval Machinery under both these divisions: those

under NAVSUP generally worked on site at the supplier's [in this case Foster Wheeler's] manufacturing facilities and Machinery Superintendents or Inspectors of Naval Machinery carried out their responsibilities at the shipbuilding yards. Moreover, it was common in my experience for technical personnel from the Propulsion Equipment Groups of NAVSEA to inspect the manufacturing and quality assurance processes at supplier's plants and the boiler erection and inspection procedures at the shipyards. In my experience, it was machinery inspectors who exercised primary, front line control over the work performed for the Navy by suppliers such as Foster Wheeler in the production of boilers and other equipment. The Inspectors of Naval Machinery [or those with other titles who succeeded them] were responsible for assuring that contractors such as Foster Wheeler complied with the contract specifications every detail. Further, the Inspectors of Naval Machinery would report to their superiors any violations of, or failures to comply with specifications, refuse to apply their stamp of approval, and not authorize shipment. This was true whether the installation was to be done by government shipyards or government contract shipyards.

- 5. The U.S. Navy retained the "final say" over the design of any piece of equipment, and made the ultimate decisions, whether engineering or contractual.
- 6. Further, I can attest that the military specifications for boilers and other equipment intended for use on vessels of the U.S. Navy, known as "MilSpecs", were drafted, approved, and maintained by the U.S. Navy, specifically NAVSEA or its predecessors, to encompass all aspects of shipboard equipment, including the material requirements.
- 7. These contract specifications reflected the state of the art and the special needs of vessels destined for combat. NAVSEA maintained and controlled the MilSpecs because it had direct contact with the forces afloat and the shipyards, and therefore superior knowledge of the

demands and requirements of vessels ready for combat, and the availability of processes and materials.

- 8. The U.S. Navy's unique specifications for boilers were communicated to boiler suppliers such as Foster Wheeler when the U.S. Navy, either directly or through its contractors, issued a negotiated contract or a Request for Proposal for equipment. The U.S. Navy specifications included the nature of any communication affixed to boilers or other equipment supplied to the U.S. Navy.
- 9. The U.S. Navy had complete control. It could not, and did not, permit its contractors to implement any changes. Every aspect of every item needed to be controlled because:
 - a. it had to be consistent with the ability of the crew to operate the ship, especially on its combat missions;
 - it had to be compatible with the ability of the crew to maintain the ship and perform emergency repairs during its service using materials and parts carried on board when shipyard assistance was not available;
 - every item had to be functionally compatible, fit in the space available, and be maintainable and operable with materials available from the U.S. Navy's supply system.
- 10. The U.S. Navy had complete control over every aspect of every piece of equipment. Military specifications governed every significant characteristic of the equipment used on U.S. Navy ships, including the instructions and warnings. Drawings for nameplates, the texts of instruction manuals, and every other document relating to construction, maintenance, and operation of the vessel was approved by the U.S. Navy. This control included the decision of which warnings should or should not be included. Thereby, the U.S. Navy controlled the decisions with regard to instructions and warnings on every piece of equipment. The U.S. Navy would not, and could not, permit any equipment manufacturer or supplier to interfere with the Navy's mission by placing warnings on any equipment [or in any instructions or manuals which accompanied the

equipment] on any U.S. Navy ships or in any shipyards in which U.S. Navy ships were built or repaired that might cause Sailors or workers to deviate from their mission or require the U.S. Navy to devote scarce resources to programs it deemed not essential, in its unilateral view.

- In addition to specifications for the design and manufacture of the equipment itself, the U.S. Navy also had detailed specifications that governed the form and content of the written materials to be delivered with the equipment, including boilers, supplied to the U.S. Navy. The U.S. Navy was intimately involved with and had final approval of all technical and engineering drawings, operating manuals, safety or hazard information and any other written information that accompanied or related to any piece of equipment. The U.S. Navy determined the nature of hazards to be subject to any precautionary labeling and the content of such labeling. In short, the U.S. Navy dictated every aspect of the design, manufacture, installation, overhaul, written documentation and warnings associated with its ships and did not permit deviation from any of its contractors.
- 12. The U.S. Navy would never permit a supplier to suggest, advise, or require any actions that would be disruptive to the normal operation of the ship in its primary function of defending our Country. Procedures for operation were taught and enforced by officers of all ranks, from Petty Officers to Captains. Any written material regarding procedures for working around boilers that differed would have interfered with the normal and necessary operations of U.S. Navy ships. Indeed, in its specifications for manuals the U.S. Navy specifically limited warning information to items and events dealing with the operation of equipment. By definition, the application or removal of insulation would not have been included.
- 13. Asbestos was rampant throughout U.S. Navy ships. Sailors and civilian personnel were exposed at all times when they were aboard ships regardless of where they were stationed or where they worked. In order to protect all these individuals from exposure to asbestos, the U.S.

Navy would have had to allocate scarce resources to provide respiratory protection for all sailors and workers every hour of every day that they were on board. Implementing wet down procedures and creating containment areas would also have been required to implement effective industrial hygiene programs. The U.S. Navy made a conscious decision on allocation of its resources in light of its knowledge of the hazards of asbestos and its mission to protect our Country. The U.S. Navy conducted extensive research concerning the hazard of exposure to asbestos starting in the 1930's. In the early 1940's, the Navy's Bureau of Medicine and Surgery, in coordination with the U.S. Maritime Commission, set standards based on the report of Dr. Drinker and Fleischer and Marr. Through its participation in government programs and conferences into the 1980's, the Navy stayed abreast of the latest information, including the results of research. The U.S. Navy made a conscious and informed decision about how asbestos would be used on its ships and how exposures would be controlled, if at all, on its ships.

14. The U.S. Navy would not have allowed its equipment suppliers, such as Foster Wheeler, to affix any warning related to any asbestos hazards on their equipment. This would have included boilers. Further, the U.S. Navy would not have allowed Foster Wheeler to place any warnings related to asbestos hazards in any written material provided by Foster Wheeler to the U.S. Navy or to a U.S. Navy contractor in accordance with its contracts, including its technical and operations manuals. To do so would have interfered with the U.S. Navy's mission and control of its ships and personnel.

I declare under penalty of perjury that the foregoing is true and correct, and that if called as a witness, I could competently testify to the foregoing facts, all of which are within my own personal knowledge.

Before me, the undersigned officer, personally appeared Ben J. Lehman, Rear Admiral, U.S. Navy, Ret. known to me to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal acknowledge.

Executed this 12th day of July 2007.

On this 17 day of 07,2007, before me, a Notary Public,

MY COMMISSION EXPIRES August

